REMARKS

Claims 1-7 are pending in this application. Claim 7 is withdrawn from consideration. By this Amendment, claims 1-5 are amended to overcome a rejection under 35 U.S.C. §112, second paragraph.

No new matter is added by this Amendment.

I. Restriction Requirement

Applicants confirm that in response to that telephone requirement, a provisional election was made to prosecute Group I, claims 1-6, with traverse.

It is respectfully submitted that in accordance with MPEP §821.04, if product claims are elected and subsequently allowed, rejoinder of non-elected process claims which depend from or otherwise include all of the limitations of allowed product claims will be permitted.

Accordingly, Applicants submit that upon allowance of elected claims 1-6, non-elected Group II (claim 7) should be rejoined and similarly allowed as Group II is the method of making the copper alloy recited in the Group I claims, and depends from claim 1 of Group I.

Thus, withdrawal of the Restriction Requirement is respectfully requested.

II. Provisional Obviousness-Type Double Patenting Rejection

Claims 1-6 were provisionally rejected under the judicially created doctrine of obviousness-type double patenting as allegedly being unpatentable over claim claims 1-3 of copending Application No. 10/722,428.

In order to obviate the double patenting rejection, Applicants herewith file a Terminal Disclaimer. Therefore, reconsideration and withdrawal of the rejections are respectfully requested.

III. Rejection Under 35 U.S.C. §103(a)

Claims 1-6 were rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over U.S. Patent No. 4,599,119 ("Ikushima") or U.S. Patent Publication No. 2002/0157741 ("Yamamoto"). This rejection is respectfully traversed.

A. Ikushima

The Patent Office alleges Ikushima teaches a Cu-Ti alloy composition with second phase elements, secondary phase size distribution. See page 4 of the Office Action. The Patent Office further alleges that the percent of conversion to the second phase particles is inherent to the teaching of the cited reference. See page 5 of the Office Action. Applicants strenuously disagree with these allegations.

Ikushima teaches an alloy consisting mainly of copper and 2 to 6 weight % titanium. See column 2, lines 10-11 of Ikushima. Ikushima further teaches that the copper alloy may include other elements such as Fe, Zr, Cr, B and Sn in amounts up to 2.0 weight %. See column 2, lines 19-22 of Ikushima.

In contrast, claims 1-5 require that the additional element is Fe, Co, Ni, Cr, V, Zr, B, or P and is 0.01 to 0.50 mass % of the copper alloy. If the additional element exceeds 0.50 mass % of the alloy, the bendability of the copper alloy is deteriorated. See paragraph 15 of the specification. This feature is especially demonstrated by Comparative Examples 14-17. See Tables 1 and 2 in the specification.

All of Comparative Examples 14-17 fall within the range taught by Ikushima. At best, Ikushima teaches an overlap in the amounts of the additional element. Applicants submit that any obviousness in the overlap is rebutted by the unexpected results as evidenced in Tables 1 and 2. As such, Applicants further submit that the copper alloy taught by Ikushima does not inherently possess the superior bendability characteristics as alleged by the Patent Office.

Furthermore, Ikushima does not teach or suggest that not less than 50% of the total content of the additional element exists as a second-phase particle in the copper alloy as required in claims 1-5. In fact, contrary to the Patent Office's assertion, Ikushima does not teach or suggest a second-phase particle formed of Cu, Ti and the additional element as recited in claims 1-5.

Moreover, the copper alloy structure recited in claims 1-6, including the second-phase particle, is preferably obtained by applying a temperature at which Ti solid solubility is greater than the added amount. It is thus possible to improve the bendability by suppressing precipitation of $TiCu_3$, which is a stable phase. See paragraph 26 of the specification. Further, the second-phase particles have high suppressing effect against the growth of the recrystallized grains. See paragraph 26 of the specification. Ikushima does not teach or suggest any of these benefits of the copper alloy, including the second-phase particles.

As such, Applicants submit that claims 1-6 are patentable over Ikushima.

B. Yamamoto

In the Office Action, the Patent Office indicated in the initial statement of rejection that claims 1-6 were also being rejected relying upon Yamamoto. However, the body of the rejection nowhere references or establishes how the reference allegedly renders the claims objectious. As such, Applicants assume that this mention of Yamamoto was made in error. At the least, no proper rejection relying on Yamamoto has been made. If the Patent Office plans to rely on Yamamoto to reject the claims, it must detail the basis for the rejection in the next Office Action. As this would be the first explanation of the rejection, any such next Office Action could not properly be made final.

Regardless, Applicants have reviewed Yamamoto, and submit the following comments. As with Ikushima, Yamamoto teaches a copper alloy containing another element such as Zn, Cr, Zr, Fe, Ni, Sn, In, Mn, P and Si in the range of 0.01 to 3.0 weight %. As

described above, if the additional element exceeds the 0.50 mass % recited in claims 1-5, the bendability of the copper alloy is deteriorated. See Comparative Examples 14-17 in Tables 1 and 2 of the specification.

At best, Yamamoto teaches an overlap in the amounts of the additional element. Applicants submit that any obviousness in the overlap is rebutted by the unexpected results as evidenced in Tables 1 and 2. As such, Applicants further submit that the copper alloy taught by Yamamoto does not inherently possess the superior bendability characteristics as alleged by the Patent Office.

Furthermore, as with Ikushima, Yamamoto does not teach or suggest that not less than 50% of the total content of the additional element exists as a second-phase particle in the copper alloy as required in claims 1-5.

Also, Yamamoto does not teach or suggest that the copper alloy structure recited in claims 1-6, including the second-phase particle, is preferably obtained by applying a temperature at which Ti solid solubility is greater than the added amount. Obtaining the copper alloy in this manner improves the bendability by suppressing precipitation of $TiCu_3$, which is a stable phase. See paragraph 26 of the specification. Further, the second-phase particles have high suppressing effect against the growth of the recrystallized grains. See paragraph 26 of the specification. Yamamoto does not teach or suggest any of these benefits of the copper alloy, including the second-phase particles.

As such, Applicants submit that claims 1-6 are patentable over Yamamoto.

C. Conclusion

For at least the foregoing reasons, Applicants submit that claims 1-6 are patentable over Ikushima and/or Yamamoto. Reconsideration and withdrawal of the rejection are thus respectfully requested.

IV. Rejection Under 35 U.S.C. §112, second paragraph

Claims 1-6 were rejected under 35 U.S.C. §112, second paragraph, as allegedly being indefinite. Specifically, claims 1-5 are allegedly indefinite because "third element group" allegedly has no antecedent basis, as first and second group elements have allegedly not been defined. This rejection is respectfully traversed.

Applicants have amended claims 1-5 to recite an "additional element" instead of a third element group. As such, Applicants submit that claims 1-5 are definite. Reconsideration and withdrawal of the rejection are thus respectfully requested.

V. Conclusion

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1-7 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

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Date: May 16, 2005

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